

Claims:

1. A surface cooled heat exchanger comprising:
a stack of elongate plate pairs, each plate pair including first and second plates having elongate central portions surrounded by sealably joined edge portions with a fluid passage defined between the central portions; each plate pair having spaced apart inlet and outlet openings that are connected together for the flow of fluid through the fluid passages; each plate pair having an exposed elongate fin plate extending peripherally outward from the joined edge portions along a length of the plate pair.
2. The heat exchanger of claim 1 wherein each fin plate has a varying profile along a length thereof.
3. The heat exchanger of claim 2 wherein the fin plates each define a plurality of spaced apart slots along a length thereof.
4. The heat exchanger of claim 3 wherein the slots are open ended at an outwardly extending end thereof.
5. The heat exchanger of claim 2 wherein the varying profile includes a plurality of louvered slots located along at least some of the fin plates.
6. The heat exchanger of claim 2 wherein the varying profile includes a plurality of expanded convolutions provided along at least some of the fin plates.
7. The heat exchanger of claim 2 wherein the fin plates of adjacent plate pairs come into intermittent contact with each other at a plurality of spaced apart locations along a length thereof.
8. The heat exchanger of claim 1 wherein the elongate central portions of adjacent plate pairs in the stack are spaced apart from each other.
9. The heat exchanger of claim 1 wherein the fin plate of each plate pair is formed integrally with only one of the first and second plates thereof.

10. The heat exchanger of claim 1 wherein the fin plate of each plate pair is formed from a plate portion formed integrally with the first plate and a further plate portion formed integrally with the second plate.

11. The heat exchanger of claim 1 wherein the first plate includes a laterally extending flange around an outer edge of the edge portion thereof, the edge portion of the second plate being nested within the laterally extending flange, the fin plate extending from an edge of the laterally extending flange.

12. The heat exchanger of claim 1 wherein the heat exchanger is a snowmobile engine coolant cooler.

13. The heat exchanger of claim 1 wherein the elongate fin plates extend only from one elongate joined edge portion of the plate pairs.

14. A cooler for cooling snowmobile engine coolant, comprising:
a stack of elongate plate pairs, each plate pair including first and second plates that are joined together to define an elongate sealed internal passage for the engine coolant having spaced apart inlet and outlet openings, each plate pair including an enlarged elongate exposed fin plate portion located adjacent a substantial length of the internal passage for receiving materials flung by a drive track of the snowmobile; and
mounting bracket means connected to the stack of plate pairs for securing the stack to the snowmobile.

15. The cooler of claim 14 wherein the mounting bracket means includes two L-brackets between which the stack of plate pairs is sandwiched.

16. The cooler of claim 14 wherein intermittent edge enhancements are provided along a length of the fin plate portion.

17. The cooler of claim 14 wherein the fin plates each define a plurality of spaced apart slots.

18. The cooler of claim 14 wherein a plurality of louvered slots are located along at least some of the fin plates.

19. The cooler of claim 14 wherein the stack is arcuately bent about an axis thereof.

20. The cooler of claim 14 wherein the fin plates of adjacent plate pairs come into intermittent contact with each other at a plurality of spaced apart locations along a length thereof.